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ABSTRACT

Contrasts between children's visualization and understanding of a filmed story and of a story in print are drawn in the introduction of this symposium paper. Discussion then briefly focuses on variables related to studying effects of story pictures on viewers, such as the story-line, audience characteristics, and the coordination of story modality and measurement instruments. At the conclusion of the presentation, a study examining how children visualize, draw, and make inferences about story content presented aurally on tape or as a Disney-style animated film is briefly described. Children viewing the film were found to differ from children hearing the taped story and from control group subjects in terms of the details of their drawings, accuracy of rendering, inferences about the main character, and use of different information sources when reasoning about the story. Findings suggest that mode of story presentation may influence cognitive processes used by children as well as their aesthetic and artistic development. Results additionally suggest that memorable television or film imagery inspires in children the practicing of new graphic means, and offers them new perceptions of familiar things. (Author/RH)

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WHAT PICTURES CAN AND CAN'T DO FOR CHILDREN'S STORY UNDERSTANDING

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INTRODUCTION[1]

It seems obvious: Seeing a story already pictured imposes another person's vision, whereas listening to a story leaves one free to imagine its content. But in order to appreciate the learning consequences of this difference, we need to examine how the provision or absence of visual content--in this case, moving pictures--affects what children visualize and understand of a story.

To begin, I would like you to play subject for a few minutes. Participating in this exercise will give you a relevant, personal perspective with which to consider these two outcomes.

First, just relax and listen to the beginning passage of the Grimms' fairy tale, The fisherman and his wife (Carle, 1976).

> There was once a poor fisherman who lived with his wife in a tiny hut by the sea. Each morning he went down to the shore and cast his net for fish. One morning he was gazing into the clear still water when suddenly he pulled up a flounder with gold and silver scales.
> "Halt," said the fish. "I beg you to let me go. I am really an enchanted prince and not at all good to eat."
> "Prince or no prince: any fish who can talk has earned its freedom," said the fisherman. And he let the flounder go.
> When he told his wife what had happened she said, "You silly thing; that was a magic fish, the kind that makes wishes come true. Oh you should have made a wish."
> "But we have everything we need."
> "Tomorrow, catch the fish again and ask it for..."

And, as is probably familiar to many of you, so it was that the fisherman summoned the fish repeatedly and relayed to it his wife's ever-greater demands.

Now I'm going to ask you to imagine how some things in the

[1]Acknowledgements are due to the John and Mary R. Markle Foundation for its support of this research, to the Watertown, Massachusetts public schools, and to the Children Stories Media staff at Project Zero.

story look. Let's concentrate on the fisherman. It will help if you close your eyes. Think about the fisherman in the story passage you just heard until you can see him in your mind. See how he looks and what he is wearing. Now imagine him fishing. How do you know to imagine him that way? That is, what is the source of your imagery? Next, consider what other inferences you can make about him: How old a man is he? What country does he come from? What kind of temperament does he have? If you can answer these questions, what is the basis for your judgments?

Now let me suggest several alternative sources for this story's imagery. First, imagine it as an animated film produced by Walt Disney. How does the fisherman look now? Does a change in his appearance affect your other judgments about him? What if, instead, Norman Lear, the television producer of situation comedies, did the casting? Or how about a treatment by Federico Fellini, the avant-garde Italian film producer? What happens to your assessment of the character's physical and psychological attributes with each production?

FACTORS GUIDING RESEARCH ON STORY PICTURE EFFECTS

Let's look more closely at the factors that cause changes in one's ideas about the same character depicted in different guises.

a) Fist, consider the role played by the story itself, its content or story-line and its aural or visual treatment. For example, the strict logic and organization of most fairy tales (Propp, 1968) may induce a consistent interpretation of the

story regardless of the accompanying pictures. On the other hand, the mix of reality and fantasy, and the psychological depth of fairy tale themes (Bettelheim, 1977) also may allow for wide variation in how characters are visualized and personalized, which in turn bears on how they are understood.

When the story-line is adapted for an aural or audio-visual medium, this adaptation affects not only the modality and symbol systems in which the tale is represented, but also the kinds of story information that are provided. For example, film and television stories invariably show us certain content that audio stories may or may not describe. In the case of the fisherman in Grimms' fairy tale, such visible content includes: details of his physical appearance, costume, and possessions; qualities of his movement; displays of emotion in facial expressions; and his location in settings. Each director's decisions about how to depict the fisherman suggest important clues regarding such attributes as age, strength, ethnic background, social class, taste, demeanor, and personality.

Authors of audio versions have more choice about whether to include such description. For example, the fisherman's appearance can be described in meticulous detail, in non-literal similes and metaphors, and suggested by his voice. His looks can also be ignored, as they were in the passage you heard. Still, no matter in what minute detail an author describes this protagonist, the text will not provide as comprehensive an image as television's moving display of the man. Furthermore, in

contrast to the spontaneous, ongoing nature of visual depictions, placement of verbal description in a story usually interrupts the progress of the narrative (Chapman, 1980).

b) What learning outcomes are likely to be affected by differences in the amount and way such story information is provided? Let me identify three possible cognitive effects.

One pertains to story comprehension, such as what is remembered and inferred about the story. For example, bringing to mind recently viewed behavior may help children interpret characters' emotions, temperament, and physical traits more than remembering verbal description of analogous information.

Another effect pertains to the cognitive processes that are called into play in decoding a story. Repeated use of certain mental activities allows children opportunities to practice and cultivate them as skills (Salomon, 1979). As a simple example, drawing appropriate inferences about television characters is more likely to entail an exercise of visual memory, whereas the same inference-making about radio characters will likely require using auditory recall. In addition, audience members will need to make more associations between the verbal text and their real world knowledge when less information is available aurally than audio-visually as a basis for making inferences.

A third possible learning outcome is appreciation of the formal aesthetic attributes of a story presentation. Such appreciation includes explicit awareness of both the personal skills being used to decode and respond to the story, and

perception of the style and production techniques used in its rendering. For example, development of children's visual sensibilities may be facilitated by their extended apprenticeship as TV viewers.

c) The extent to which such picture effects are demonstrated depends in part upon how story learning is measured. For instance, one needs to be sensitive to the relationships that exist between the modalities in which a story is related and the form in which children are asked to respond (Meringoff, 1981). Because much of what children remember and understand from a televised story has been conveyed pictorially (Meringoff, 1980), aspects of this knowledge are best tapped by non-verbal means.

It is also important to consider the performance demands made upon children. For example, even children who have vivid mental images of the fisherman may not have the graphic skill to draw a picture of him. However, they may succeed in describing his appearance by means of visual discrimination tasks, and his actions with the help of movable props operated manually or by computer.

d) Finally, the influence that pictures have on story understanding depends upon the child audience. For instance, preschool children may not be as good candidates for obtaining common knowledge from different media as older school-age children. Their less well-developed ability to override the superficial appearance of visual displays (Piaget, 1973) may make them more vulnerable to the perceptually salient features of different

media. On the other hand, unusual visual portrayals can have a greater impact on older children, who are more likely to harbor expectations about how given story content should look.

RESEARCH

Let me briefly describe what we did in one study to examine how children visualize, draw, and make inferences about the same story content presented either aurally on tape or as a Disney-style animated film.[1]

Having selected the tale of The fisherman and his wife, we rerecorded two audio versions of the story and inserted short descriptive phrases in either literal or non-literal language that were analogous to the film's visual depiction of four points in the story. These points provided information about characters' appearance, movement, affect, and orientation to the setting.

Forty-five 9 and 10 year old children were randomly assigned to either the literal audio, non-literal audio, or film version, and were individually presented the story. Afterward, children were asked to draw and talk about their imagery and to answer and substantiate inference questions about the story. To establish a standard of reference against which to compare these children's drawings, baseline drawings of analogous content were obtained from children who were unfamiliar with the story.

I will return to the fisherman character to give you some examples of the results.

[1]This study is described more fully in Vibbert and Meringoff (1981).

First, when children's drawings were compared across groups, film viewers included more details of the fisherman's appearance --his long nose, rugged face, straight hair, and costume--than listening children. Instead, fisherman drawings made by those who heard either audio version more closely resembled the pictures made by children who had no experience with this story. There also were significant medium differences in how the fisherman was depicted fishing. In spite of four references made during the story to his casting a net, most listeners (unlike film viewers) preferred to show him equipped with a pole. When the audio audience delved for the sources of their imagery, we learned that most of the fishermen they had ever seen used fishing poles.

Throughout the study, film viewing children produced drawings that reflected their attempts to accurately render the characters as depicted. In contrast, children who listened to the story more often visualized characters according to prototype images with which they were already familiar, often regardless of available language descriptions.

Relatedly, the film audience tended to base their inferences about the main character--including his age, nationality, and temperament--upon given visual information, whereas the listening audience was more likely to draw upon their outside-story beliefs and past experience to substantiate story inferences. For example, film viewers judged the fisherman to be a younger man because they noticed that "In the film he didn't have a mustache or beard", while children who heard the story imagined him an

older man because "Most fishermen are old." Both groups also relied somewhat upon the verbal text, voice quality, and further story-related inferences to interpret the character.

What light do such medium differences shed on the potential cognitive functions of pictures outlined earlier?

With regard to story comprehension, children who saw the animated story made resourceful use of itssvisual content--of even a single shot--to make inferences about the characters, events, and settings. In comparison, children who heard the story were less able to draw upon relevant verbal text, and instead were forced to go beyond the given information. In this sense, the audio versions were inherently less informative. Given that most of the children recognized the inserted descriptions, their seeming disregard of this applicable language also raises the issue of what makes verbal description salient enough for children to incorporate it into their schema for story characters.

Use of these different information sources in reasoning about the story also suggests that different cognitive processes may be at work. For instance, film and television viewers seem to be getting more practice than listeners in using their short-term visual memory. Depending upon how stories are animated, children may be learning to read highly complex, subtle imagery.

Finally, there is the role of story pictures in children's aesthetic and artistic development. Althought the children's attempts to draw what they saw on film may be construed as simply

imitative and inhibiting, this albeit logical interpretation fails to take into account another important piece of evidence. Children of school age exhibit canonical ways of dressing people, situating them in space, etc. (Gardner, 1980), as observed in their baseline drawings. Access to a single film screening mitigated against children doing this. Such divergent efforts suggest that memorable television or film imagery inspires in children the practicing of new graphic means, and offers them new perceptions of familiar things.

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